

FIG. 1

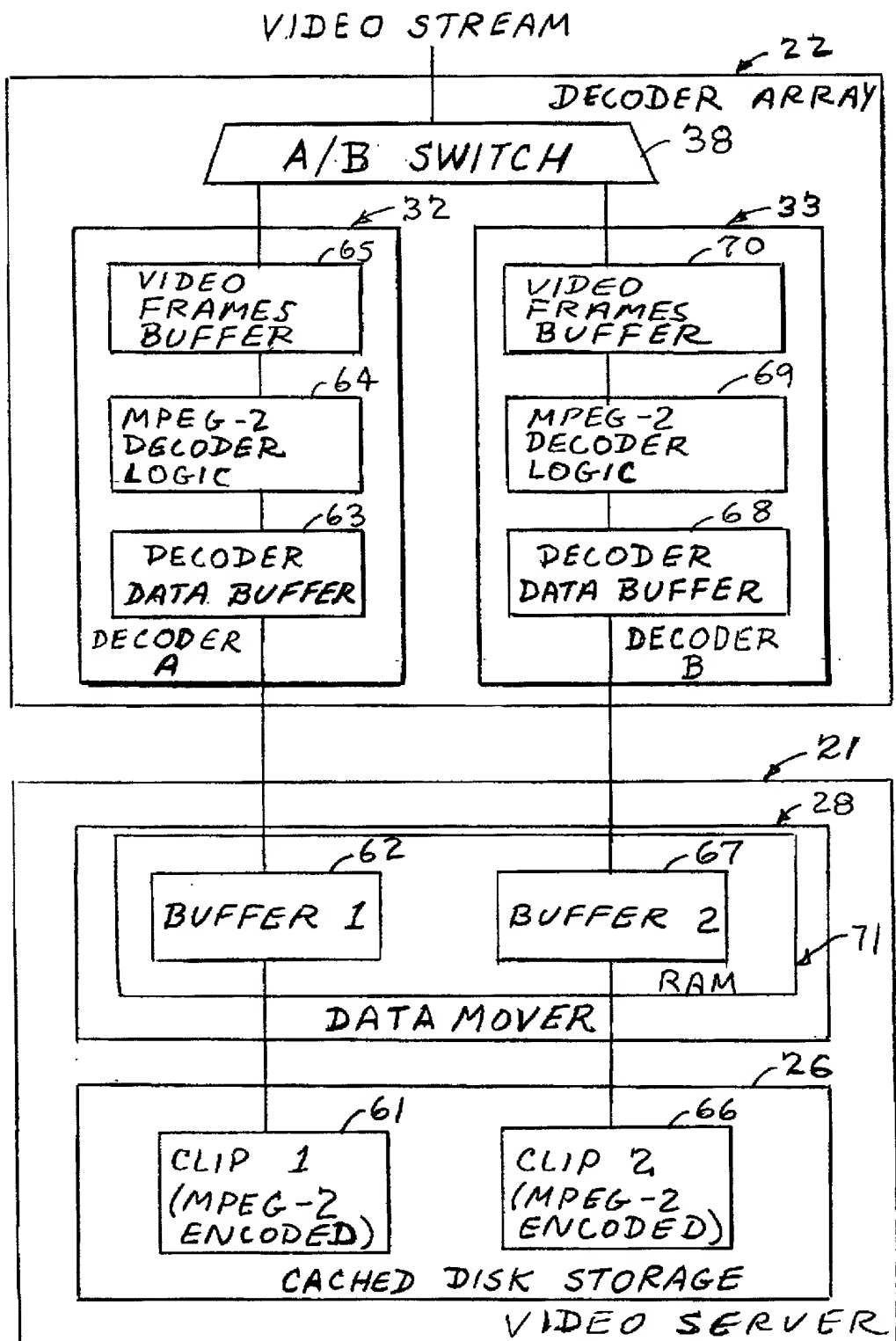


FIG. 2

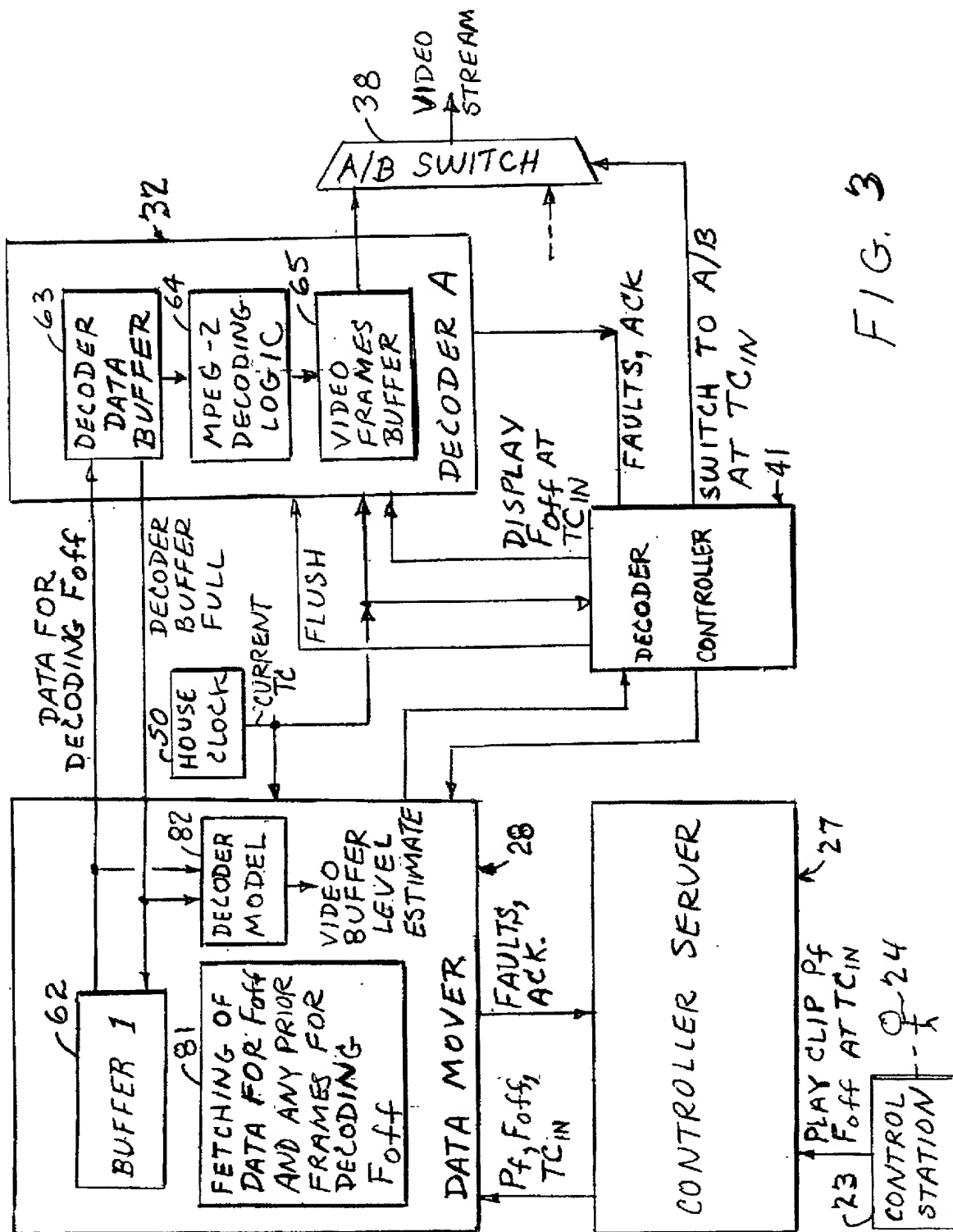


FIG. 3

FIG. 5 is a schematic diagram of a video display system.

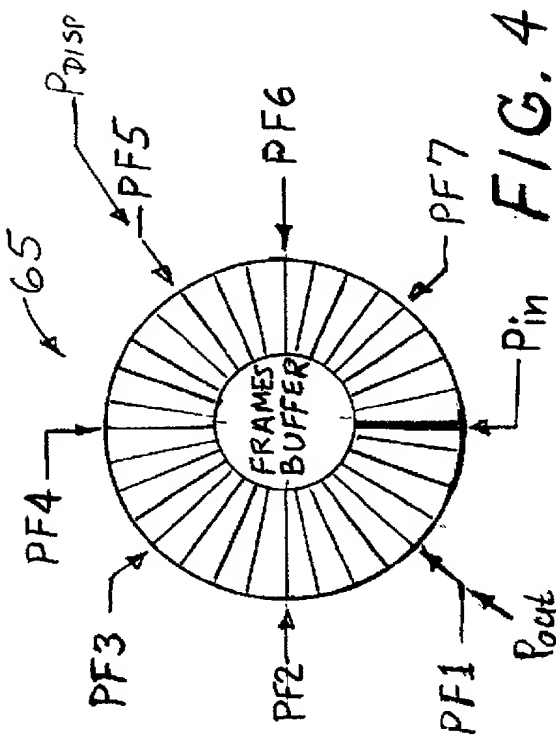


FIG. 4

DISPLAY	PDISP
IN	PIN
OUT	POUT
NO. FRAMES	7
F1	FOFF1 TC1 PF1
F2	FOFF2 TC2 PF2
F3	FOFF3 TC3 PF3
F4	FOFF4 TC4 PF4
F5	FOFF5 TC5 PF5
F6	FOFF6 TC6 PF6
F7	FOFF7 TC7 PF7

FIG. 5

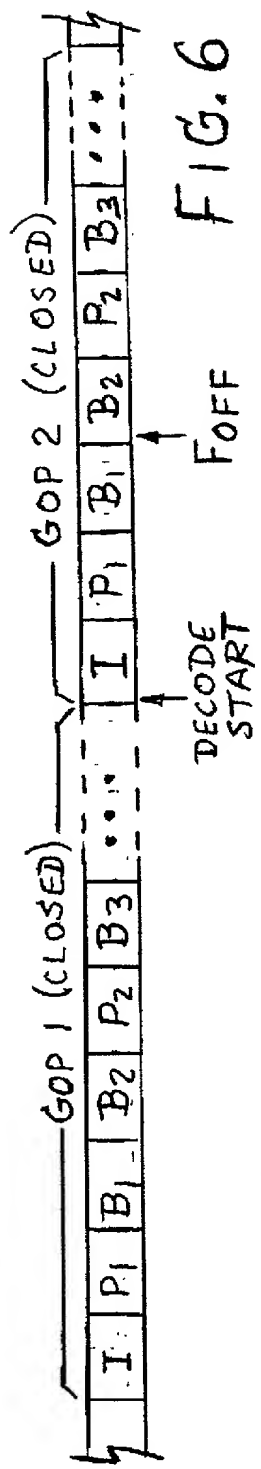


FIG. 6

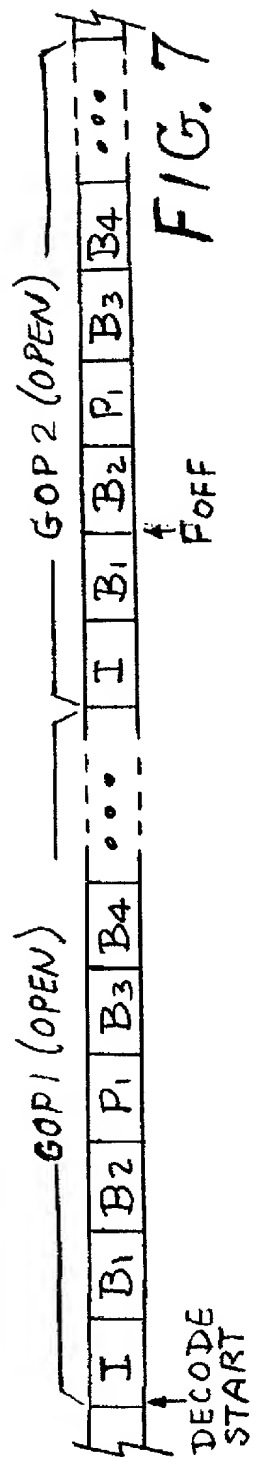


FIG. 7

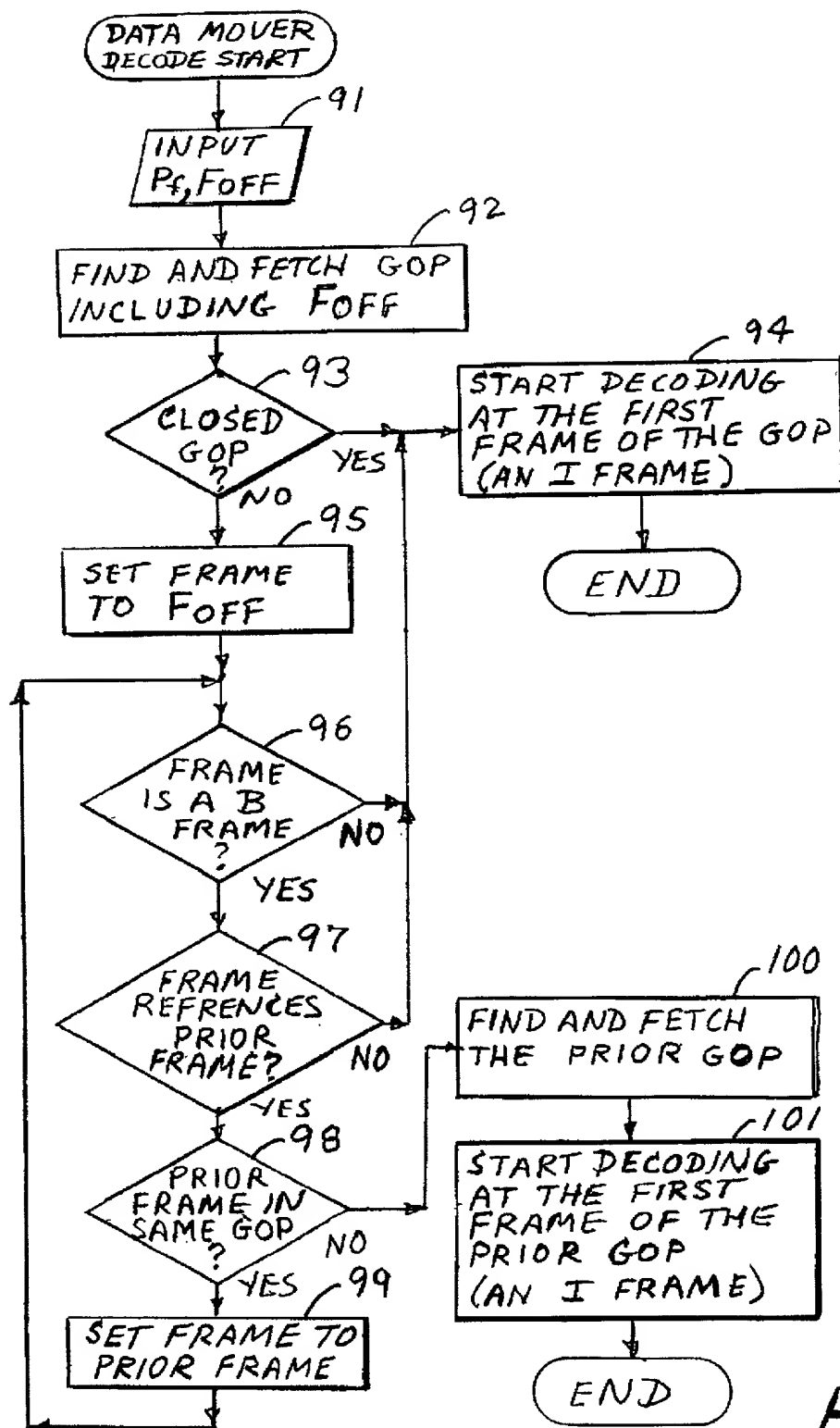


FIG. 8

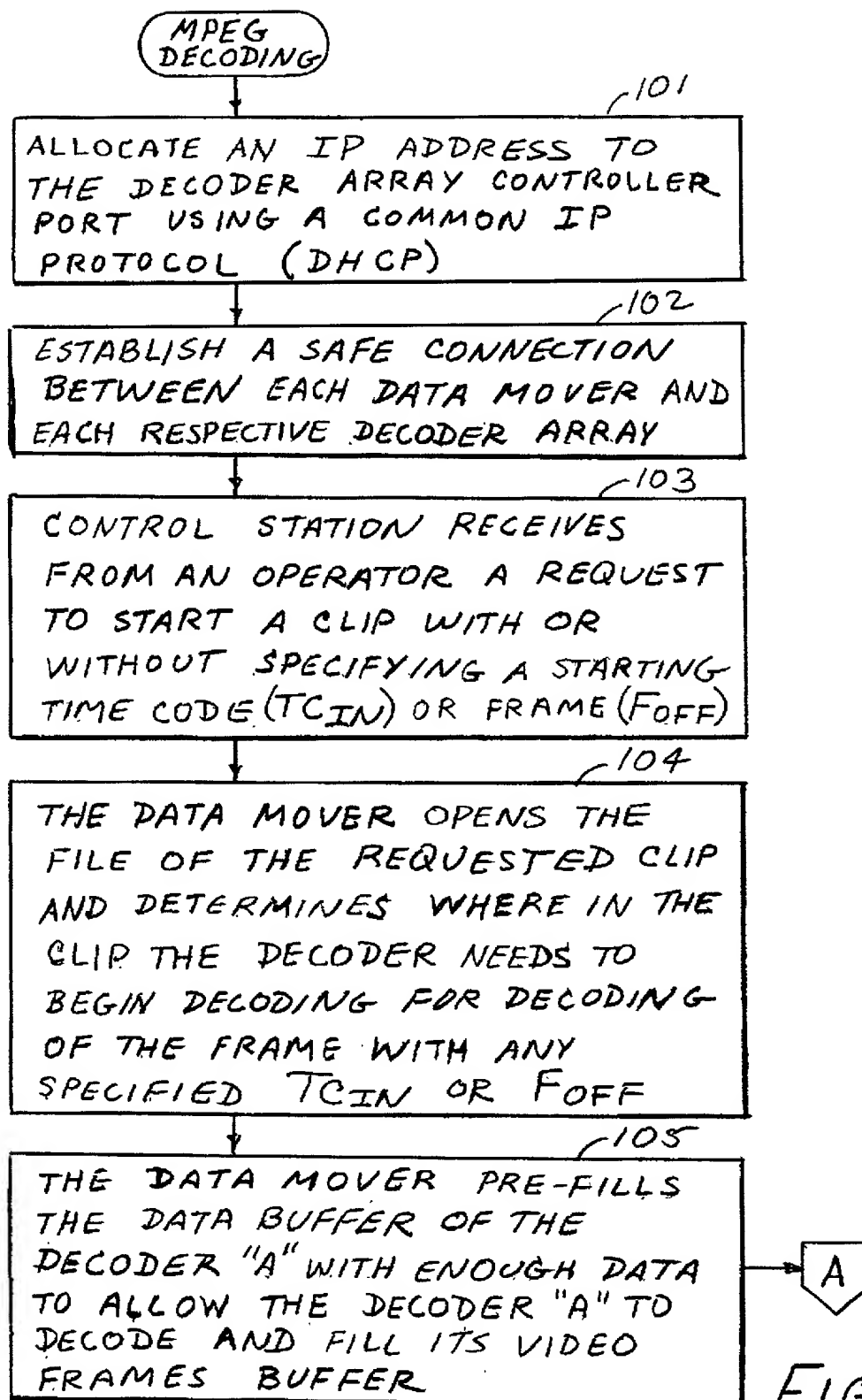


FIG. 9



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THE DATA MOVER SENDS ANY TC_{IN} TO THE DECODER "A", OR ASSIGNS A TC_{IN} BASED ON THE HOUSE CLOCK, AND SENDS THE SPECIFIED OR ASSIGNED TC_{IN} TO THE DECODER "A". THE HOUSE CLOCK IS SHARED BETWEEN THE VIDEO SERVER AND THE DECODER ARRAY FOR SYNCHRONIZATION. THE DATA MOVER SENDS TO THE DECODER "A" THE TC OF THE FIRST FRAME AS WELL AS THE FRAME OFFSET STARTING WITH AN I FRAME AND A GOP HEADER, NOT NECESSARILY THE FIRST GOP

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AT THE REQUESTED TC_{IN} , THE DECODER "A" STARTS DISPLAYING THE VIDEO FRAMES STARTING WITH THE ONE WITH THE REQUESTED OFFSET F_{OFF} . AT THE SAME TIME, THE DECODER "A" BEGINS REQUESTING MPEG-2 TS DATA FROM THE DATA MOVER AT A RATE DICTATED BY THE BIT RATE OF THE DECODING PROCESS



FIG. 10

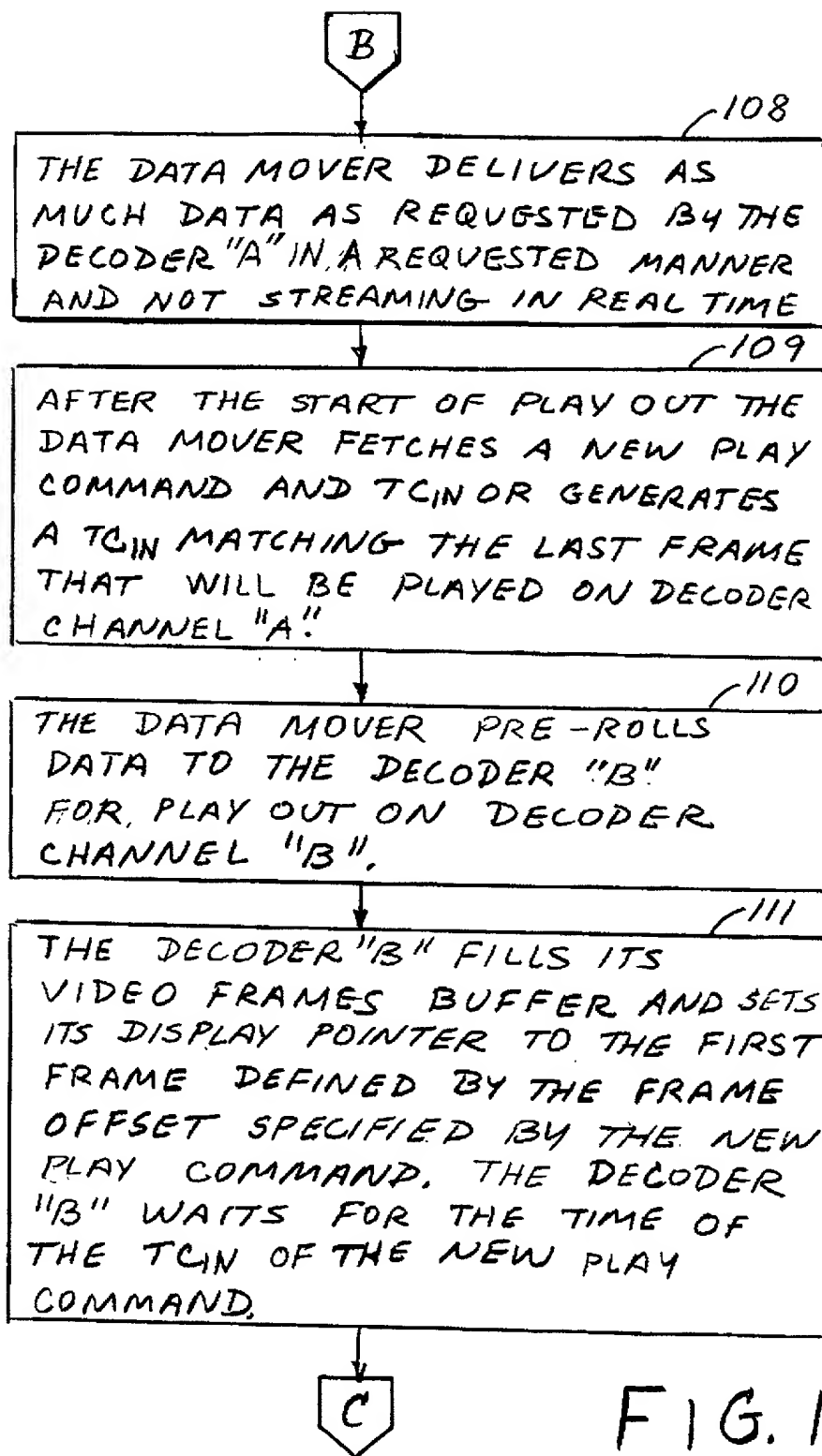


FIG. 11

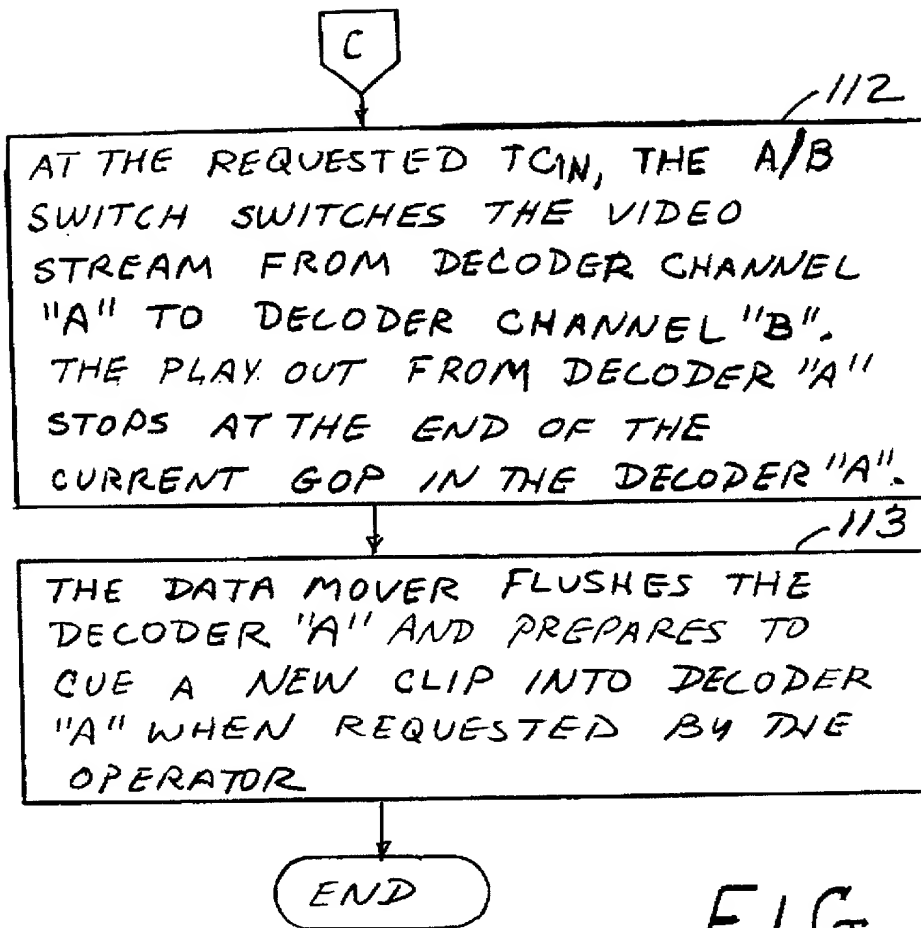


FIG. 12

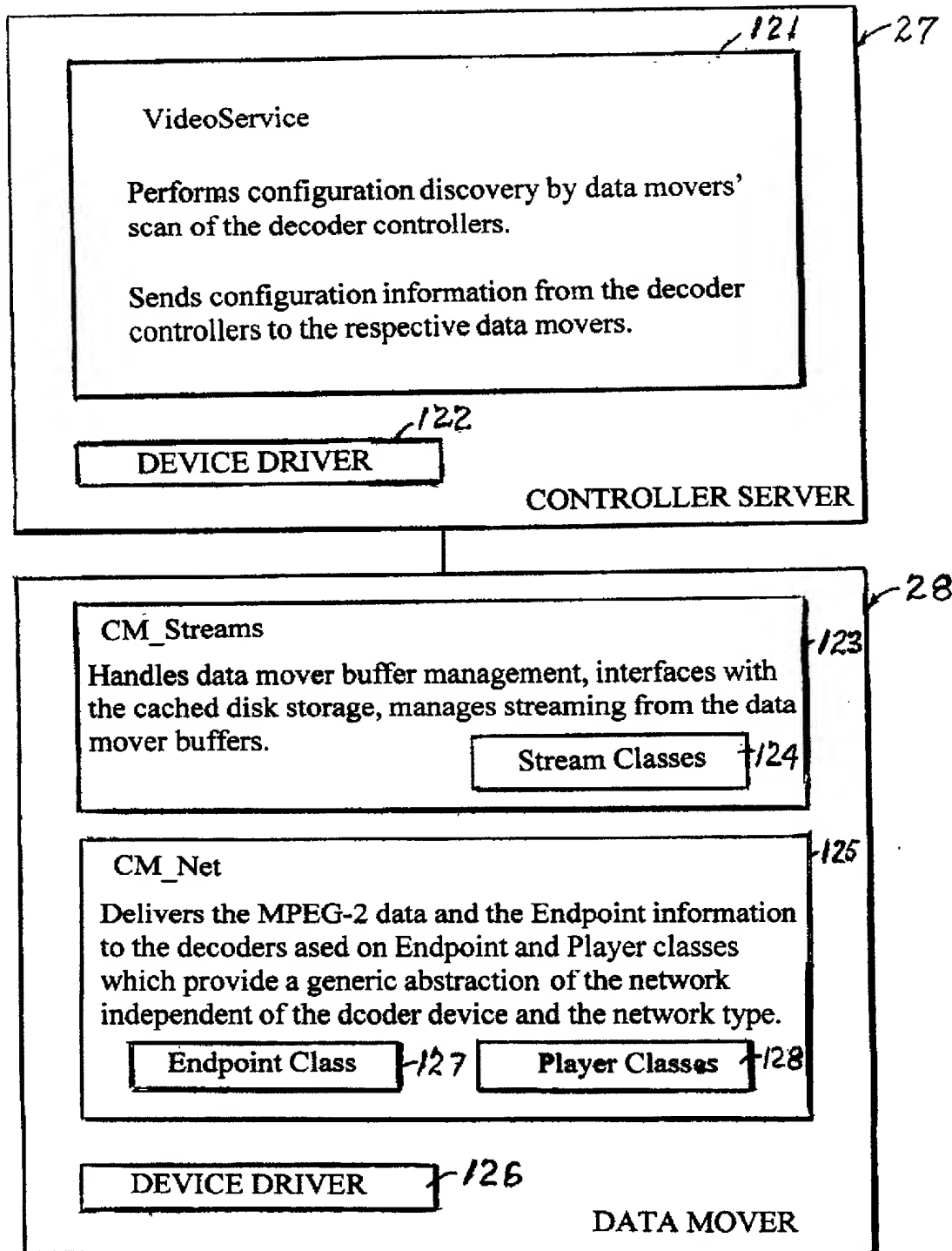


FIG. 13

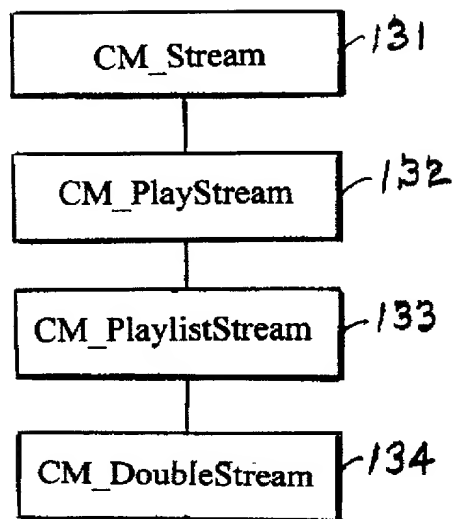


FIG. 14

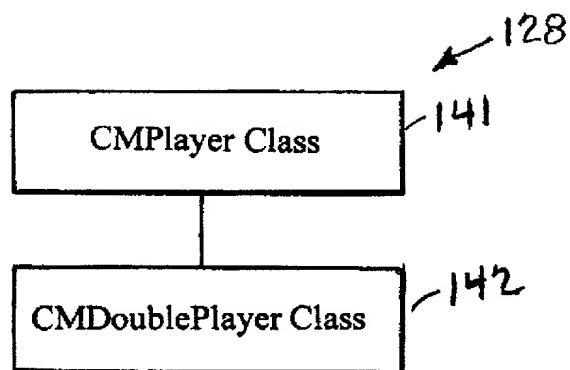


FIG. 15

Control Protocol

Configuration.

Allows the data mover to determine the configuration of the decoder array and set up any configuration parameters.

Commands: QueryStatus, Configure

Streaming.

Controls delivery of streams (i.e., timing, clips, transition type).

Commands: PrerollClip, ModifyDisplayTime, CancelClipPreroll, PauseClip, ResumeClip, ModifyClip.

Asynchronous status reports.

Asynchronous reports of significant events from the decoder array to the data mover.

Commands: ClipHasStarted, ClipHasEnded, ClipsIsEnding, TrapMessage, EditSummary,

Edit.

Allows all decoders in the decoder array to be controlled by an edit review station.

Commands: Jog forward/backward, Shuttle forward/backward, Stop, Goto a specific timecode, and normal Play.

FIG. 16

Format of Streaming Protocol Ethernet Packet

Ethernet Header	(14 bytes)
IP Header	(20 bytes, min) (60 bytes, max)
UDP Header	(8 bytes)
Streaming Protocol Header	(32 bytes)
Optional Data	(6-26 bytes, min, depending on IP hdr) (1400-1440 bytes, max, depending on IP hdr)
Frame Checksum	(4 bytes)

FIG. 17

Request Message Header Format

Request message number		
Clip ID Number		
Sequence Number		
byte offset		
window size		
state	Reserved	speed
RESERVED		
RESERVED		

FIG. 18

Data Message Header Format

Data message number		
Clip ID number		
Sequence number		
offset		
0x00	0x00	data length
flags	RESERVED	
RESERVED		
RESERVED		

FIG. 19

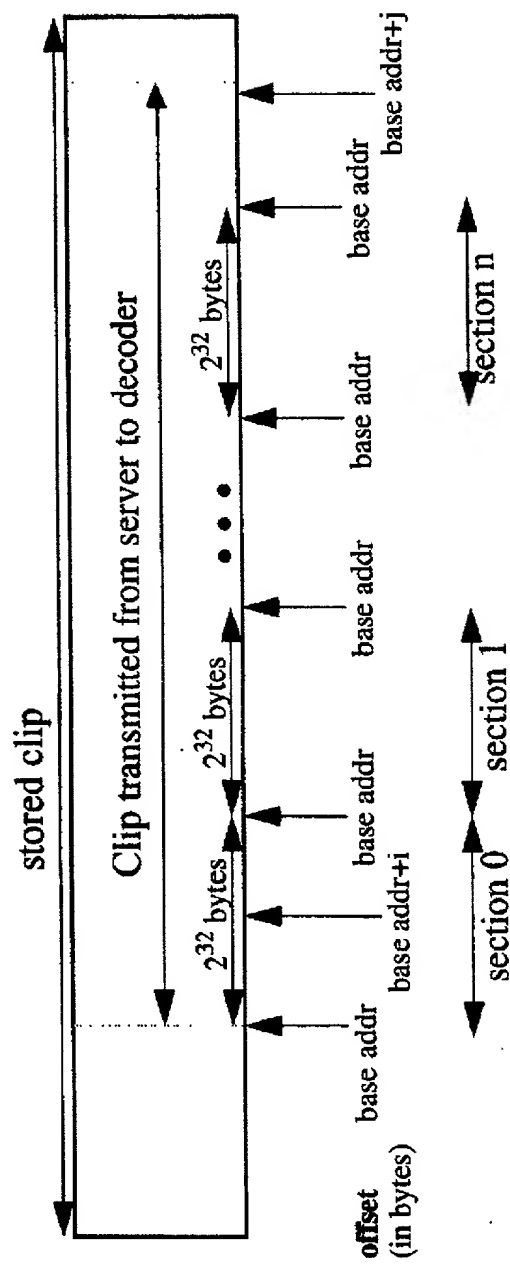
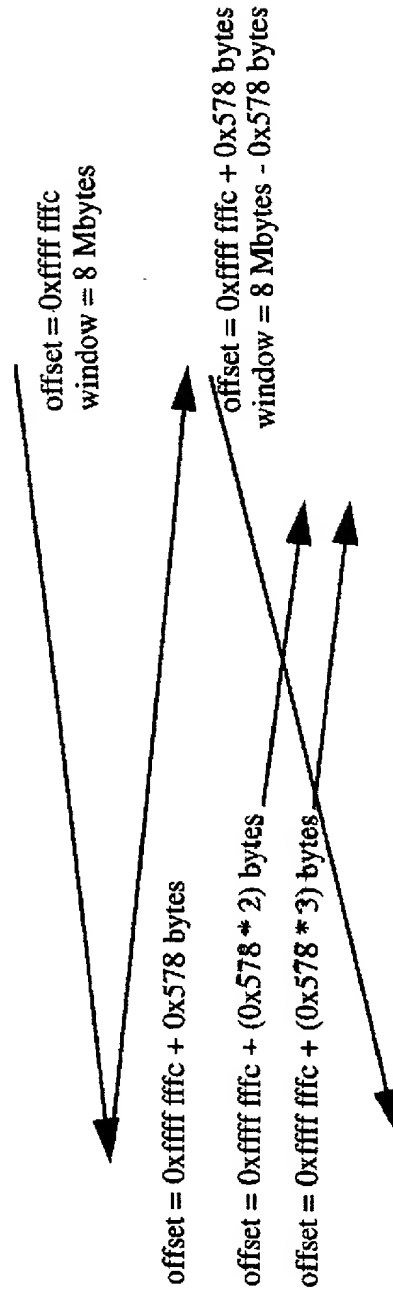


FIG. 20

Data Mover sets offset in Data Message Decoder sets offset in Receive Message



Data mover knows that real window size is not 8 Mbytes - 0x578 bytes since two more data messages are in transit with 0x578 bytes each. Data mover calculates true window size

FIG. 21

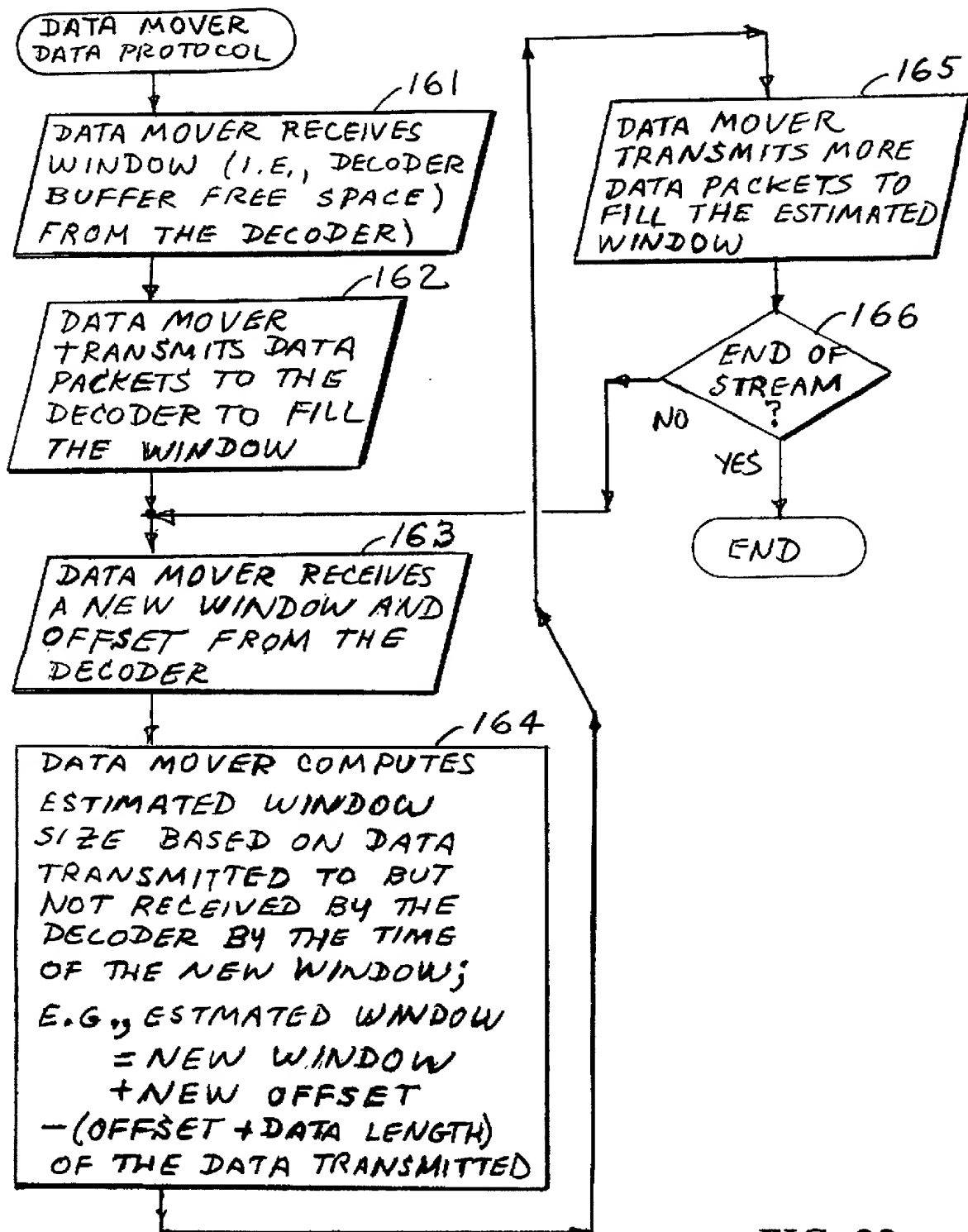


FIG. 22

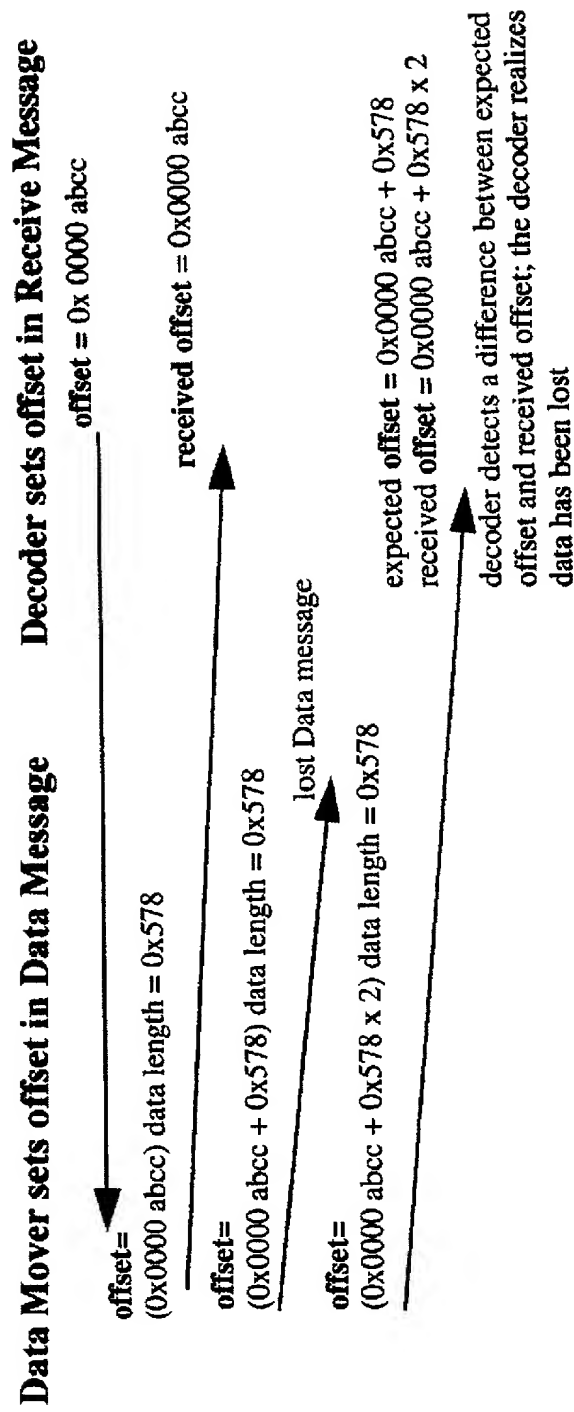


FIG. 23

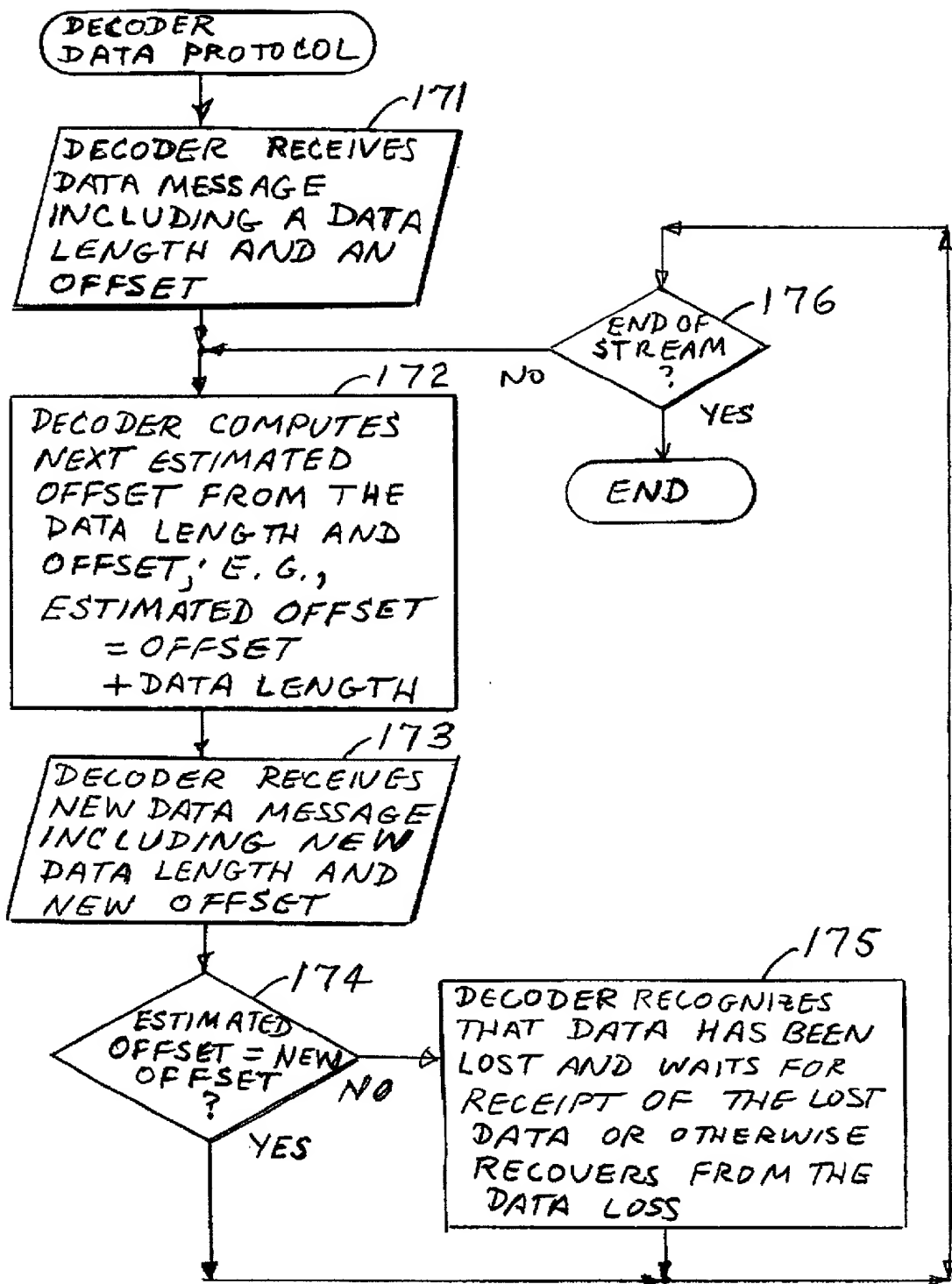


FIG. 24

Definition of Streaming States

Streaming State	Definition
Cueing	Data mover sends data to the decoder, at least up to the time code that must be displayed. The data rate can be at a rate convenient for the data mover. The decoder consumes the data at 1x real time. It is not important if the decoder underflows, since the underflow would be before the display time.
Streaming	The data mover sends data to the decoder at 1x real time and the decoder consumes the data at 1x real time; the decoder can underflow/overflow and it will affect the picture presented to the viewer.
Stopped	The decoder is not consuming data. During this state, the decoder continues to send Request messages at the configured Request interval.
non-overlapped	This state requires that the decoder send a new Request message only after receiving a response from the previous Request message. The data mover may use this mode for testing.

FIG. 25

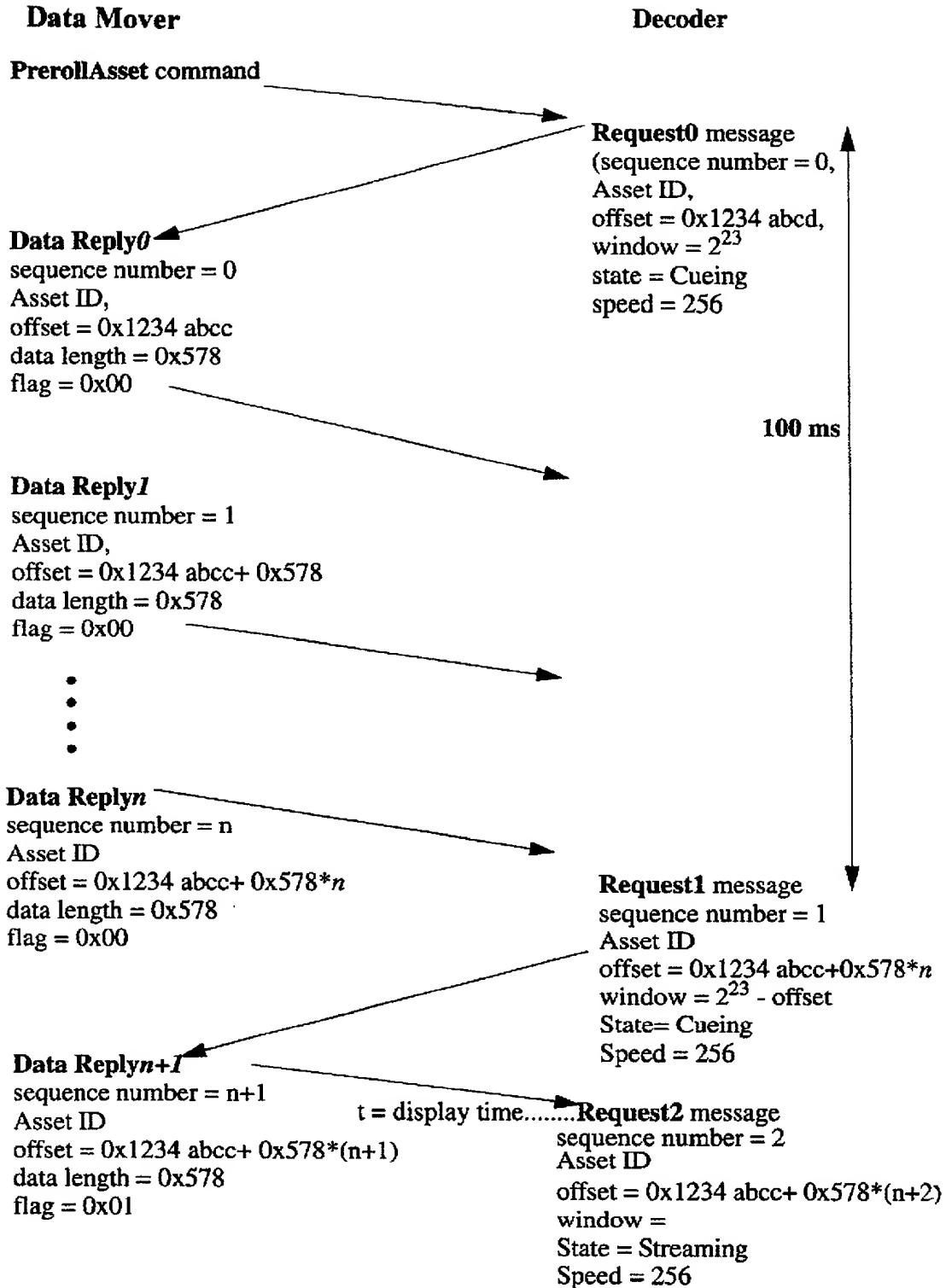


FIG. 26